

IN THE CLAIMS:

Claims 1 – 70 Canceled.

71. (Previously Presented) A winder for winding a web to produce a rolled product comprising:

a web transport apparatus for conveying a web downstream, the web transport apparatus comprising a conveyor belt, the web transport apparatus having a first side and a second and opposite side;

a plurality of winding modules positioned along the web transport apparatus, each winding module comprising:

a) a mandrel in operative association with a driving device for center driving and rotating the mandrel, the mandrel having a length; and

b) a positioning apparatus in operative association with the mandrel, the positioning apparatus being configured to move the mandrel into and out of engagement with the conveyor belt, wherein, when placed in engagement with the conveyor belt, a nip is formed between the mandrel and the conveyor belt;

and wherein the mandrels are consecutively positioned along the web transport apparatus; each of the mandrels extending across the web transport apparatus from the first side to the second side, the nip between the mandrel and the conveyor belt is used to contact a web being conveyed on the conveyor belt in order to initiate winding of the web on the mandrel.

72. (Previously Presented) A winder as defined in claim 71, wherein the driving device for rotating the mandrel comprises a motor.

73. (Previously Presented) A winder as defined in claim 71, wherein each mandrel is brake controlled.

74. (Previously Presented) A winder as defined in claim 71, wherein each mandrel is movably positioned so that the distance between the mandrel and the web transport apparatus is varied so as to produce the nip having a nip pressure, a web being wound into a rolled product by combination of mandrel rotational speed, web surface speed, incoming web tension, and the nip pressure.

75. (Previously Presented) A winder as defined in claim 71, wherein the web transport apparatus comprises a vacuum conveyor belt configured to hold a web against a surface of the conveyor belt as the web is conveyed downstream.

76. (Previously Presented) A winder as defined in claim 71, wherein the web transport apparatus comprises an electrostatic conveyor belt configured to hold a web against a surface of the conveyor belt as the web is conveyed downstream.

77. (Previously Presented) A winder as defined in claim 71, wherein at least certain winding modules further comprise a core loading apparatus and a product stripping apparatus.

78. (Previously Presented) A winder as defined in claim 71, wherein at least certain mandrels are vacuum supplied.

79. (Previously Presented) A winder as defined in claim 71, wherein at least certain mandrels are constructed of a carbon fiber composite.

80. (Previously Presented) A winder as defined in claim 71, wherein at least certain winding modules further comprise a tail sealing apparatus for adhering a trailing end of a web onto a rolled product.

81. (Previously Presented) A winder as defined in claim 71, further comprising an adhesive supply device for applying adhesive to a web prior to engagement with one of the winding modules.

82. (Previously Presented) A winder as defined in claim 71, wherein at least certain winding modules further comprise a core loading apparatus configured to load cores onto each mandrel prior to initiating winding of a web onto the mandrel.

83. (Previously Presented) A winder as defined in claim 71, wherein the plurality of winding modules are located in a substantially linear arrangement with respect to one another along the web transport apparatus.

84. (Previously Presented) A winder as defined in claim 71, wherein the plurality of independent winding modules are positioned at the end of a tissue machine.

85. (Previously Presented) A winder as defined in claim 71, wherein at least certain winding modules further comprise a product stripping apparatus.

86. (Previously Presented) A winder as defined in claim 71, wherein at least certain winding modules further comprise a core loading and product stripping apparatus.

87. (Currently Amended) A winder as defined in claim 71, wherein the plurality of winding modules ~~winder~~ includes at least three winding modules.

88. (Previously Presented) A winder as defined in claim 71, wherein the web transport apparatus includes a first side and a second and opposite side and wherein the mandrel of each winding module is slidably positioned over the web transport apparatus, each winding module being movable to the first side of the web transport apparatus into a racked out position;

the winder further comprising a core loading apparatus for loading cores on a mandrel, the core loading apparatus being positioned on the second side of the web transport apparatus.

89. (Previously Presented) A winder as defined in claim 71, wherein the web transport apparatus includes a first side and a second and opposite side and wherein the mandrel of each winding module is slidably positioned over the web transport apparatus, the winding module being movable to the first side of the web transport apparatus into a racked out position;

the winder further comprising a product stripping apparatus for stripping rolled products off a mandrel, the product stripping apparatus being positioned on the second side of the web transport apparatus.

90. (Previously Presented) A winder as defined in claim 71, wherein, after winding of the web on the mandrel is initiated, the positioning apparatus is configured to move the mandrel out of engagement with the conveyor belt, the driving device rotating the mandrel for continued winding of the web.

91. (Currently Amended) A process for unwinding a parent roll into multiple product rolls comprising:

unwinding a tissue web from a parent roll and conveying the tissue web downstream on a web transport apparatus, the web transport apparatus

comprising a conveyor belt, the web transport apparatus having a first side and a second and opposite side, and wherein a plurality of winding modules are positioned adjacent to the web transport apparatus, each winding module containing a mandrel, the mandrels having a length and being consecutively positioned along the web transport apparatus, each of the mandrels extending across the web transport apparatus from the first side to the second side;

accelerating one of the mandrels to a desired rotation speed;

positioning ~~one of the mandrels~~ the rotating mandrel adjacent to the conveyor belt for forming a nip between the web transport apparatus and the mandrel; and

~~thereafter conveying a leading edge of the tissue web into the nip~~ formed between the mandrel and the web transport apparatus so as to initiate winding of the web onto the mandrel.

92. (Previously Presented) A process as defined in claim 91, further comprising the step of placing a core onto the mandrel prior to positioning the mandrel adjacent to the conveyor belt so that the tissue web is wound onto the core.

93. (Previously Presented) A process as defined in claim 91, further comprising the steps of slitting the tissue web as the web is unwound to form a first slit and a second slit and feeding each slit to a separate set of consecutively positioned winding modules along the reel transport apparatus.

94. (Currently Amended) A process as defined in claim 91, further comprising the steps of:

loading a core on the mandrel;

accelerating the mandrel to [a] the desired rotation speed;

positioning the winding module to initiate contact between the rotating core and the web;

controlling the position of the winding module and the rotational speed of the mandrel during the winding step to produce a rolled product with desired characteristics; and

stripping the rolled product from the winding module.

95. (Previously Presented) A process as defined in claim 91, wherein after winding is initiated, winding is continued only by surface winding such that the mandrel is positioned towards the web transport apparatus at a controllable magnitude to create a nip pressure to control winding of the web.

96. (Previously Presented) A process as defined in claim 91, wherein after winding of the web is initiated, further winding is carried out only by center winding by driving the mandrel at a desired rotational speed.

97. (Previously Presented) A process as defined in claim 91, wherein after winding is initiated, further winding is carried out by using a combination of center winding and surface winding, center winding occurring by driving the mandrel and surface winding occurring by positioning the mandrel towards the web transport apparatus at a controllable magnitude to create a nip pressure to control winding of the web.

98. (Previously Presented) A process as defined in claim 91, further comprising the steps of forming a rolled product and stripping the rolled product from the mandrel.

99. (Previously Presented) A process as defined in claim 91, wherein the winding modules are configured to act independently of one another wherein if any winding module is disabled or experiences a process fault, the remaining winding modules are configured to continue winding the web to produce the rolled product.

100. (Previously Presented) A process as defined in claim 91, further comprising the step of cutting the tissue web after a rolled product is formed on the mandrel and sealing a trailing edge of the tissue web to the rolled product.

101. (Previously Presented) A process as defined in claim 91, wherein the conveyor belt comprises a vacuum conveyor belt and wherein the process further comprises the step of holding the tissue web against a surface of the conveyor belt as the web is conveyed downstream.

102. (Previously Presented) A process as defined in claim 91, wherein the conveyor belt comprises an electrostatic conveyor belt and wherein the

process further comprises the step of holding the tissue web against a surface of the conveyor belt as the web is conveyed downstream.

103. (Previously Presented) A process as defined in claim 92, further comprising the step of stripping a rolled product from the mandrel after the rolled product is formed.

104. (Currently Amended) A process as defined in claim 103, wherein the plurality of winding modules includes at least three winding modules that are positioned adjacent to the web transport apparatus and wherein during the process at substantially the same time, a core is loaded on a first mandrel of a first winding module, a roll of material is formed on a second mandrel of a second winding module, and a wound roll is stripped from a third mandrel of a third winding module.

105. (Currently Amended) A process as defined in claim 91, further comprising the steps of:

cutting the tissue web after a rolled product is formed on the mandrel;

continuing to unwind the tissue web from the parent roll and conveying a leading edge of the tissue web downstream on the web transport apparatus; and

conveying the ~~leading edge of the~~ tissue web into a nip formed between the web transport apparatus and a second mandrel so as to initiate winding of the web on the second mandrel.

106. (Currently Amended) A process as defined in claim 91, wherein when a process fault is detected, the process further comprises the steps of:

cutting the tissue web to form a leading edge and to discontinue winding on the mandrel;

continuing to unwind the tissue web from the parent roll and conveying a leading edge of the tissue web downstream on the web transport apparatus; and

conveying ~~the leading edge of~~ the tissue web into a nip formed between the web transport apparatus and a second mandrel so as to initiate winding of the web on the second mandrel.

107. (Canceled)

108. (Previously Presented) A process as defined in claim 93, wherein the tissue web forms more than two slits.

109. (Previously Presented) A process as defined in claim 91, further comprising the step of accelerating the mandrel to a rotation speed that substantially matches the speed of the conveyor belt prior to forming the nip between the web transport apparatus and the mandrel.

110. (Previously Presented) A process as defined in claim 91, wherein after winding is initiated on the mandrel, the position of the mandrel with respect to the web transport apparatus is adjusted by a positioning apparatus, the positioning apparatus being configured to move the mandrel towards and away from the web transport apparatus, the position of the mandrel being adjusted by the positioning apparatus for controlling a nip pressure between a rolled product being formed on the mandrel and the web transport apparatus in order to produce the rolled product with desired characteristics.

111. (Previously Presented) A process as defined in claim 91, wherein each of the mandrels has substantially the same length.

112. (Previously Presented) A process as defined in claim 91, wherein each of the mandrels has a first end and a second and opposite end and wherein each end of each mandrel is supported by a frame during winding of the mandrels.

113. (Currently Amended) A process as defined in claim 91, wherein when a process fault is detected, the process further comprises the steps of:
continuing to unwind the tissue web from the parent roll without interruption; and

conveying ~~a leading edge of~~ the tissue web into a nip formed between the web transport apparatus and a second mandrel so as to initiate winding of the web on the second mandrel.

114. (Previously Presented) A process as defined in claim 113, further comprising the step of cutting the tissue web to form a leading edge after the process fault is detected without an interruption in unwinding of the web.

115. (Previously Presented) A winder as defined in claim 71, wherein each of the mandrels has substantially the same length.

116. (Previously Presented) A winder as defined in claim 71, wherein each of the mandrels has a first end and a second and opposite end and wherein each end of each mandrel is supported by a frame during winding of the mandrels.